

**Server Manifesto**  
Data Center  
Architecture  
and the Future  
of Democracy  
Niklas Maak



## Server Manifesto



**Server Manifesto**  
**Data Center**  
**Architecture**  
**and the Future**  
**of Democracy**  
**Niklas Maak**



## **Contents**

- 6 This Is a Historic Moment**  
Why We Need New Public Spaces  
to Experiment with and Reclaim  
Digital Sovereignty for the People  
Francesca Bria
- 16 Server Manifesto**  
Data Center Architecture  
and the Future of Democracy  
Niklas Maak
- 80 A New Building Type on the Block:  
Data Centers and the City**  
What Are the Greatest Challenges Offered  
by the Data Center Boom?  
Interview with Karsten Spengler
- 87 Designs by the Students**  
of the Städelschule  
in Frankfurt am Main
- 112 Colophon**

# **This Is a Historic Moment Why We Need New Public Spaces to Experiment with and Reclaim Digital Sovereignty for the People**

Francesca Bria

**Francesca Bria**, born 1977 in Rome, is president of the Italian National Innovation Fund, a member of the board of directors of the television broadcaster RAI Uno, professor at University College in London, and chief advisor to the United Nations on digital cities. She initiated the European Union's DECODE project to reclaim collective data sovereignty.



We are still in the midst of a global emergency, which represents an unprecedented economic shock that has forced us to adapt, think in new ways, and act quickly. Decades of economic polarization have increased inequalities, with many people facing debilitating insecurity. The lockdown has led to more economic damage and further economic polarization. Many people consider the economy to be a system to which they do not belong, a system designed to favor others.

The coronavirus pandemic makes radical and future-oriented political action even more urgent. Crises, whether wars or pandemics, can sometimes feed the social imagination. New pacts must be forged and the old rules deeply transformed. This pandemic also triggered a sort of “forced” digitalization of many aspects of our daily lives. Digital infrastructures have proved to be critical infrastructures, on which essential services of society, such as work, healthcare, and education, depend. Access to connectivity-free, public, and accessible ultra-broadband is to be considered a fundamental right of all citizens. Developing technologies such as 5G networks, cloud computing, and artificial intelligence (AI) infrastructures have suddenly become national and global priorities.

However, market dominance has become a real concern. For Big Tech, the pandemic was a positive shock. While all other firms slowed down, tech firms sped up investments and acquisitions: the major digital players have achieved a combined stock market value of over \$8 trillion. US tech shares are now more valuable than the entire European stock market. If five companies own the digital economy, can it really work for all of us? We must ensure that the development of digital capitalism does not result in irreversible forms of economic concentration.

Digital platforms are powerful algorithmic institutions that are strongly transforming the labor market and challenging regulations. Automation of labor-intensive sectors such as manufacturing, logistics, and transport has a big impact on the global commodity chain and on job dislocation and destruction. In this digital transformation of society, we must be aware of the long-term political and social challenges that it entails. The rise of digital capitalism brings many challenges—from monopoly power to the need for a new tax for digital platforms, as well as trade regulations, unemployment due to automation, and questions related to civil liberties and democracy.

Furthermore, the public sector, too, is increasingly dependent on the tech industry. Yet, we rarely ask where this power and dependence come from. Why is the immense economic value that such a digital

revolution represents attributed exclusively to technology firms—and not to ordinary citizens or public institutions? And what can we do to ensure that we return some of that value back to citizens, while empowering them to use technology to participate in politics—a process from which they justly feel excluded—as well as to offer better and more affordable public services? It is obvious that we need to re-politicize the question of technology, and that the discussion should be about the redistribution of assets and power, and the management of future welfare services and critical infrastructures.

Accelerating digitalization is not enough. It is also necessary to give it a direction. In my view, what we really need is a new social contract for digital society. We should call it a “smart green new deal” because it is about using digital technologies to attain both social and environmental sustainability.

This digital new deal will be about restoring our digital sovereignty. Digital sovereignty means that as a society we should be able to set the direction of technological progress and put technology and data at the service of the people. This also means directing technological development to solve the most pressing social and environmental issues of our times, starting from the climate emergency, the energy transition, and public healthcare.

Digital sovereignty means that digital technologies can facilitate the transition from today’s digital economy of surveillance capitalism—whereby a handful of US- and China-based corporations battle for global digital supremacy—to a people-centric digital future based on better workers and on environmental and citizens’ rights, in order to achieve long-term social innovation.

Europe understands the real threats to sovereignty in the hyper-technological twenty-first century, and it is clear that Europe being seen as a “regulatory superpower” is not enough anymore. The European Union needs to remain relevant as a global economic power through its scientific and technological innovation, taking back control of connectivity, data, microprocessors, and 5G. Europe needs to build alternatives to Chinese technology manufacturing monopolies and US-based intellectual property, digital, and payment monopolies. To achieve this goal, we need both ambitious regulation and a digital industrial strategy. This battle is about defending innovation for the public interest, about the data sovereignty of citizens, their autonomy, and their constitutionally guaranteed rights.

## The Right to the (Digital) City

This might seem like mission impossible. And yet, there is one bright spot on the horizon: cities. They cannot, of course, solve all of our digital problems—many of them need urgent attention at national and global levels—but cities can become laboratories for democracy and sustainability. They can run smart, data-intensive, algorithmic public transportation, housing, health, and education—all based on a logic of solidarity, social cooperation, and collective rights.

My suggestion is to start from a network of cities promoting ambitious policies to take back the democratic governance of digital technology and data sovereignty. Cities should give power back to citizens through a process of participatory democracy and use the city data to tackle our big environmental and social challenges: climate, sustainable mobility, affordable housing, healthcare, and education. We should seize this historical opportunity. When we talk about urban technology and data, we are dealing with some kind of meta-utility—composed of those very sensors and algorithms—which powers the rest of the city. As cities lose control over the said meta-utility, they find it increasingly difficult to push for non-neoliberal models in supposedly “non-technological” domains such as energy or healthcare.

The notion of “sovereignty”—whether of finances or energy—permeates the activities of many urban social movements, including those transitioning into leadership positions in their respective cities. Concepts like energy sovereignty may be easily grasped and capable of mobilizing large sections of the population, but what does energy sovereignty mean once we transition onto the smart grid, and firms like Google offer to cut our energy bills by one third if only we surrender our energy data? Does the struggle for “energy sovereignty” mean anything if it is not intricately tied to the struggle for “technological sovereignty”? Probably not. A fight for digital sovereignty should be coupled with a coherent and ambitious political and economic agenda capable of reversing the damage brought by the neoliberal turn in both urban and national policy. Well-targeted pragmatic interventions can have a big impact.

The right to the city might need reformulation as the right to enjoy rights altogether, as the alternative means risking that digital giants will continue redefining every right. What, for example, does a right to the city mean in a city operated by technology companies and governed by private law, with citizens and social communities unable to freely and unconditionally access key resources like data, connectivity,